FORSPAN ASSESSMENT MODEL FOR CONTINUOUS ACCUMULATIONS--BASIC INPUT DATA FORM (NOGA, Version 7, 6-30-00)

IDENTIFICATION INFORMATION

Assessment Geologist:…	R.C. Milici	Date:	2/21/2002
Region:……	North America	Number:	5
Province:…….	Appalachian Basin	Number:	5067
Total Petroleum System:.	Carboniferous Coalbed Gas	Number:	506705
Assessment Unit:…….	Central Appalachian Shelf	Number:	50670584
Based on Data as of:……			
Notes from Assessor…..	Not quantitatively assessed.		

CHARACTERISTICS OF ASSESSMENT UNIT

Assessment-Unit type: **Oil** (<20,000 cfg/bo) **or** **Gas** (≥20,000 cfg/bo) _____

What is the minimum total recovery per cell?… _____ (mmbo for oil A.U.; bcfg for gas A.U.)

Number of tested cells:…… _____

Number of tested cells with total recovery per cell ≥ minimum: ……... _____

Established (>24 cells ≥ min.) _____ Frontier (1-24 cells) _____ Hypothetical (no cells) _____

Median total recovery per cell (for cells ≥ min.): (mmbo for oil A.U.; bcfg for gas A.U.)

1st 3rd discovered _____ 2nd 3rd _____ 3rd 3rd _____

Assessment-Unit Probabilities:

Attribute	Probability of occurrence (0-1.0)
1. **CHARGE:** Adequate petroleum charge for an untested cell with total recovery ≥ minimum ……	_____
2. **ROCKS:** Adequate reservoirs, traps, seals for an untested cell with total recovery ≥ minimum.	_____
3. **TIMING:** Favorable geologic timing for an untested cell with total recovery ≥ minimum……..	_____

Assessment-Unit GEOLOGIC Probability (Product of 1, 2, and 3):…….....……. _____

4. **ACCESS:** Adequate location for necessary petroleum-related activities for an untested cell with total recovery ≥ minimum …… _____

NO. OF UNTESTED CELLS WITH POTENTIAL FOR ADDITIONS TO RESERVES IN THE NEXT 30 YEARS

1. Total assessment-unit area (acres): (uncertainty of a fixed value)
   minimum _____ median _____ maximum _____

2. Area per cell of untested cells having potential for additions to reserves in next 30 years (acres):
   (values are inherently variable) minimum _____ median _____ maximum _____

3. Percentage of total assessment-unit area that is untested (%): (uncertainty of a fixed value)
   minimum _____ median _____ maximum _____

4. Percentage of untested assessment-unit area that has potential for additions to reserves in next 30 years (%): (a necessary criterion is that total recovery per cell ≥ minimum)
   (uncertainty of a fixed value) minimum _____ median _____ maximum _____

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TOTAL RECOVERY PER CELL

Total recovery per cell for untested cells having potential for additions to reserves in next 30 years:
(values are inherently variable)
(mmbo for oil A.U.; bcfg for gas A.U.) minimum _____ median _____ maximum _____

AVERAGE COPRODUCT RATIOS FOR UNTESTED CELLS, TO ASSESS COPRODUCTS

(uncertainty of fixed but unknown values)

Oil assessment unit:	minimum	median	maximum
Gas/oil ratio (cfg/bo)……..			
NGL/gas ratio (bngl/mmcfg)……			
Gas assessment unit:			
Liquids/gas ratio (bliq/mmcfg)……			

SELECTED ANCILLARY DATA FOR UNTESTED CELLS

(values are inherently variable)

Oil assessment unit:	minimum	median	maximum
API gravity of oil (degrees)…….			
Sulfur content of oil (%)……..			
Drilling depth (m) ……..……			
Depth (m) of water (if applicable)……			
Gas assessment unit:			
Inert-gas content (%)…….....			
CO_2 content (%)……..			
Hydrogen-sulfide content (%)……..……			
Drilling depth (m)……			
Depth (m) of water (if applicable)……			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO STATES

Surface Allocations (uncertainty of a fixed value)

1. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

2. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

3. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

4. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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5. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

6. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

7. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

8. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES
Surface Allocations (uncertainty of a fixed value)

1. Federal Lands represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

2. Private Lands represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

3. Tribal Lands represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

4. Other Lands represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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5. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

6. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

7. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

8. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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9. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

10. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

11. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

12. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO FEDERAL LAND SUBDIVISIONS
Surface Allocations (uncertainty of a fixed value)

1. Bureau of Land Management (BLM) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

2. BLM Wilderness Areas (BLMW) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

3. BLM Roadless Areas (BLMR) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

4. National Park Service (NPS) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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5. NPS Wilderness Areas (NPSW) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

6. NPS Protected Withdrawals (NPSP) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

7. US Forest Service (USFS) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

8. USFS Wilderness Areas (USFSW) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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9. USFS Roadless Areas (USFSR) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

10. USFS Protected Withdrawals (USFSP) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

11. US Fish and Wildlife Service (USFWS) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

12. USFWS Wilderness Areas (USFWSW) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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13. USFWS Protected Withdrawals (USFWSP) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

14. Wilderness Study Areas (WS) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

15. Department of Energy (DOE) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

16. Department of Defense (DOD) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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17. Bureau of Reclamation (BOR) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

18. Tennessee Valley Authority (TVA) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

19. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

20. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO ECOSYSTEMS
Surface Allocations (uncertainty of a fixed value)

1. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

2. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

3. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

4. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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5. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

6. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

7. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

8. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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9. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

10. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

11. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

12. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES
Subsurface Allocations (uncertainty of a fixed value)

Based on Data as of: _____

1. All Federal Subsurface represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

2. Other Subsurface represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			